



DETERMINA N. 167/2022, prot. 493 tit. III cl 8

Selection procedure based on qualification and possible interview for one postdoctoral research position entitled “Analisi di spettri ottici ad alta risoluzione per lo studio di atmosfere esoplanetarie nell'ambito del progetto HOT-ATMOS / *Analysis of high-resolution optical spectra to investigate exoplanetary atmospheres within the HOT-ATMOS project*”.

THE DIRECTOR

TAKING INTO ACCOUNT the INAF Statute, approved and effective as of 2018, September 24;
TAKING INTO ACCOUNT the INAF “Disciplinare di organizzazione e funzionamento (DOF)”, approved by CDA, decreto # 44, date 21.06.2012;

TAKING INTO ACCOUNT Italian Law n. 240, 30 Dec 2010, and its art. 22;

TAKING INTO ACCOUNT Italian Law n. 11, 27 Feb 2015, and its art. 6 c 2-bis;

TAKING INTO ACCOUNT DM M.I.U.R.9.3.2011, and its art. n. 102

TAKING INTO ACCOUNT the INAF “Personnel Rules and Regulations”;

TAKING INTO ACCOUNT the document “Linee guida provvisorie per il conferimento di assegni per lo svolgimento dell’attività di ricerca dell’INAF” approved by CDA INAF on 29.01.2019;

TAKING INTO ACCOUNT the request presented by Dr. Valerio Nascimbeni for opening the procedure for awarding a research fellowship of 12 months (possibly renewable) entitled “Analisi di spettri ottici ad alta risoluzione per lo studio di atmosfere esoplanetarie nell'ambito del progetto HOT-ATMOS / *Analysis of high-resolution optical spectra to investigate exoplanetary atmospheres within the HOT- ATMOS project*”;

GIVEN that the position is granted by the funds of Osservatorio Astronomico di Padova, project “The HOT-ATMOS Project: characterizing the atmospheres of hot giant planets as a key to understand the exoplanet diversity”;

GIVEN the financial coverage is granted by the funds of Osservatorio Astronomico di Padova, Ob. Funz. 1.05. 01.85.04 “The HOT-ATMOS Project: characterizing the atmospheres of hot giant planets as a key to understand the exoplanet diversity”, cap 1.01.01.01.009 “Assegni di ricerca” del Centro di costo 1.03 (INAF-Osservatorio astronomico di Padova), in the process of accreditation;

TAKING INTO ACCOUNT the clearance of the INAF ticket service on 24/02/2022 (ticket n. 130858);

D E C R E E S:

Art. 1 – Research Project

A selection based on titles and qualifications, possibly integrated by an interview, is open to award one PostDoc research position, “Assegno di Ricerca” entitled “Analisi di spettri ottici ad alta risoluzione per lo studio di atmosfere esoplanetarie nell'ambito del progetto HOT-ATMOS / *Analysis of high-resolution optical spectra to investigate exoplanetary atmospheres within the HOT-ATMOS project*”.

The position offered provides an opportunity to carry out scientific or technological research in a fostering environment to those candidates that deem it useful for their professional development. The position is aimed to carry out the project described, and does not refer to needs of permanent personnel for INAF.

This selection is designed to:

- offer a professional growth opportunity to young men/women having Ph.D or equivalent three year research experience to research fellows or to fixed-term contract holder that want to engage in national and international network in a point of view of spinning and mobility, or to recruit particular competence people for temporary project and/or activity;

- cover positions that are out of permanent planning personnel with indeterminate time employment and consequently they are not a prerequisite to placing as a long-term researcher in the Institution.

The activity will focus on the analysis of high-resolution optical spectra gathered by the HARPS-N spectrograph at the Telescopio Nazionale Galileo by the GAPS collaboration (Global Architecture of Planetary Systems). The scientific aim of this project is to characterize the atmospheres of hot transiting exoplanets (Jupiter- and Neptune sized) through the transmission spectroscopy technique. In particular, the atmospheric signal will be detected by analyzing individual metal lines (such as Na and Mg) and the Balmer series, but also, for the hottest planets, by cross-correlating the spectra with line lists of specific molecules (TiO) and refractory metals such as Fe and Ti. A significant part of the effort will be devoted to identifying and correcting systematic errors, both of telluric and astrophysical origin (e.g., Rossiter effect, CLV effect, stellar pulsations and activity, etc) that are known to mimic or distort the exoplanetary signal.

Art. 2 – Requirements

The selection is open to Italian and foreign citizens meeting the following minimum requirements:

1. A Ph.D. degree in either Astronomy or Physics– or an equivalent degree – issued by an Italian or a foreign advanced studies institute or university; good knowledge of written and spoken English, adequate expertise on programming with high-level languages such as Fortran, Python, C++, etc.

or, alternatively

2. A masters degree in either Astronomy or Physics– or an equivalent degree, including the Italian university degree obtained under the “vecchio ordinamento” – awarded by an Italian or a foreign advanced studies institute or university, which would entitle the applicant to the enrollment in a PhD programme; *followed by* at least three years of documented experience in research/technological activities related to the above mentioned theme (including years spent as a Ph.D. student), good knowledge of written and spoken English, adequate expertise on programming with high-level languages such as Fortran, Python, C++, etc.

- Documented research independence, specific expertise on astronomical spectroscopy, in particular at high resolution in the optical range and knowledge of advanced numerical and statistical techniques for the analysis of astronomical data, will be a plus.

The requirements for admission to the selection must be fulfilled within the deadline of the application.

Art. 3 – Application procedure

Applicants should send the application, properly signed, with attachments in PDF format via e-mail to address valerio.nascimbeni@inaf.it. The e-mail subject should indicate the position which is being applied for (“Assegno di Ricerca – Determina 167/2022”).

Applications must be submitted by March 29, 2022. Late submissions will not be considered.

INAF accepts no responsibility for the loss of applications or documents, due to the applicant having provided incorrect contact details or having failed or delayed in notifying changes of these details, or to problems with postal delivery not due to INAF.

The applicant must include in the application the following documents:

1. Complete Application form (*annex 1*), **signed and dated**,
2. Curriculum vitae, signed and dated by the applicant, detailing on past fellowships;
3. Statement of past research;
4. List of publications;
5. List of any other title deemed relevant for the application;
6. Copy of the PhD certificate or of equivalent foreign academic qualification. Copy of the Master degree including the exam list with marks (only for foreigners applicant);
7. List of all the submitted documents;

8. Declaration (*annex 2*) where the applicant must state clearly and precisely, under his/her own responsibility:

- name(s) and surname, date and place of birth, nationality, place of residence and address for correspondence;
- that he/she satisfies all the requirements described in article 2 of this Call;
- that he/she is aware of and is not ineligible under any of the restrictions described in article 4 of this Call;
- that all the submitted documents, papers, Thesis conform to the originals.

The declaration must be **signed and dated**. A **copy of valid identity document** need to be enclosed. The lack of any of the above mentioned declarations will determine the exclusion from the selection procedure for incomplete application.

In case he/she is awarded the post-doctoral fellowship, the successful candidate will have to provide the INAF-OA Padova administration, before taking up the position, with a copy of the PhD certificate or of equivalent foreign academic qualification.

Art. 4 – Ineligibility and incompatibility with other funding

The Research fellowship cannot be granted either to INAF employees holding permanent or non-permanent contracts, nor to regular employees of Institutes listed in article 22, paragraph 1 of Italian Law n. 240/2010. Fellowship holders are not allowed to enroll in a “Laurea Specialistica”, or “Laurea Magistrale” (Master Level) degrees, or to enter a PhD program covered by a separate fellowship. For employees of the Italian Public Administration, a compulsory unpaid leave of absence is foreseen.

The fellowship cannot be held simultaneously with other fellowships of whatever kind, except those awarded with the aim of integrating the training or research activity of the fellowship holder through a period spent abroad. Aggregation of income from working activities, also part-time, carried out continuously is not accepted. Instead, limited self-employed occasional work is compatible with the fellowship, only if this is not prejudicial to the research activity carried out for INAF. This must be authorized in advance by the Director of INAF – OA Padova.

When formally accepting the fellowship, the successful candidate will issue a declaration of absence of inadmissible simultaneous fellowships.

Art. 5 – Duration of the Research fellowship

The Research fellowship is initially awarded for 12 months and can be renewed depending on funding availability and project needs. In accordance with the Italian Law n. 240/2010 the total duration of the “Assegni di Ricerca” cannot in any case exceed six years (excluding periods of maternity leave or sick leave, in accordance with current legislation).

Art. 6 – Host Institution

The post doc will carry out the research at the Padova premises of INAF Osservatorio Astronomico di Padova in collaboration with Dr. Valerio Nascimbeni. During this year the successful applicant may spend some time visiting other research institutions in Italy or abroad, and he/she will be reimbursed according to the INAF rules as in “Manuale per il trattamento delle spese di missione”.

Art. 7 – Salary

The gross yearly salary for this position will be 28,000.00 (Twenty-eight—thousand/00) Euro. This amount is net of burdens to be charged to INAF – OA Padova and will be paid in deferred monthly installments.

Applicable fiscal rules are the provisions of art. n. 4 of Italian law n. 476/1984 and subsequent modifications and integrations. Applicable social security rules are art. n. 2, paragraph 26 and following paragraphs of the Italian Law n. 335/1995 and subsequent modifications and integrations. Applicable rules for obligatory maternity leave are provided in the Decree of the Italian Ministry of Labour and Social Security dated 12 July 2007, published in the “Gazzetta Ufficiale” n. 247, October 23rd 2007. Applicable rules for sick leave are provided by art. n. 1, paragraph n. 788 of Italian law n. 296, December 27 2006, and subsequent modifications.

During the period of obligatory maternity leave, the allowance paid by INPS (Italian National Institute for Social Security) according to art. n. 5 of the above Decree dated 12 July 2007 is

supplemented by INAF up to the total amount of the fellowship. The period of obligatory maternity leave will not contribute to the duration of the fellowship foreseen by the contract.

Art. 8 – Selection Committee

The selection will be performed by a Selection Committee appointed by the Director of INAF- OA Padova.

Art. 9 – Selection procedure and evaluation

The selection is based on qualifications, possibly integrated by an interview. The Selection Committee can establish a short list of the eligible applicants to be interviewed, on the basis of titles and qualifications and documented experience in the scientific activities on the specific subject of the research fellowship. If approved by all members of the Committee, the interviews can be performed via video-conference, to ease the procedure for foreign candidate and reduce costs. At the interview, applicants must exhibit their identity documents unless the interview is being carried out remotely via electronic devices. In the latter case the Selection Committee verifies the applicant's identity.

Applicants selected for the interview will be summoned by email.

Art. 10 – Evaluation

Evaluation will be based on qualifications and relevance. Applications will be further evaluated on the basis of the following selection criteria:

- Master degree mark, consistency of curriculum vitae, publications, educational background schools with the profile required from the research project, participation to conferences and advanced training, previous experience in the field.

The Selection Committee can establish a short list of the eligible applicants to be interviewed. The total ranking score is 100 points: a maximum of 50 for titles and qualifications, and a maximum of 50 for the interview. At the conclusion of the selection procedure the Selection Committee will produce a ranked list.

The minimum score for admission to the possible interview for an applicant to be awarded the position will be decided by the Committee.

The approval decree of the selection procedure and the ranked list will be published on INAF- OA Padova web site: <http://www.oapd.inaf.it>.

Art. 11 – Awarding of the fellowship

The highest-ranked candidate will receive a written notification with an offer of the research fellowship, which will be anticipated by e-mail to assure a speedy process. Within 10 days from receipt of the formal notification of the award she/he must provide a formal declaration of acceptance of the fellowship, or of withdrawal. The declaration can also be anticipated by electronic mail. In case no declaration is received, the candidate is considered as withdrawn and thus excluded. The committee can then move down the ranking and repeat the procedure with the second-ranked candidate, and so on, until the fellowship is accepted.

Under no circumstances the signing of the contract starts a subordinate employment relationship or ensures any rights to access to permanent INAF staff positions.

The appointee will be required to personally provide for her/his own health insurance - if she/he does not already benefits from the health services according to the law n. 833/1978 - as well as insurance against risks from accidents at work, without any charge for the INAF-Astronomical Observatory of Padua. He/she must also notify the Administration in writing, attaching a copy of the policy. Regarding the risks of civil responsibility towards third parties, the researcher will be covered by an insurance policy stipulated by INAF. The policy does not cover the civil liability of the researcher towards INAF.

The appointee will also have to communicate as soon as possible to the Administration the details of her/his bank / postal account at an Italian bank or post office, registered personally and exclusively to the appointee. The salary will be paid on this account monthly. In the absence of such indication, the Administration is not able to technically guarantee the credit at the same time as the other checks issued by the Structure. The operation is in no way supported by INAF.

If for any reasons the current call will be rescinded, INAF has the right to nullify the contract.

Dr. Valerio Nascimbeni will supervise all the activities of the appointee.

Art. 12 – Starting date and fellowship obligations

Expected starting date of the research fellowship is preferably on **15th April 2022**.

The holder of the position:

- a) will start the research activity on due date, as for the contract with INAF- OA Padova, unless prevented by force majeure or exceptional circumstances, of which the Director of INAF – OA Padova must be timely informed;
- b) will carry out her/his research activities at INAF-Padova under the supervision of the project, Dr. Valerio Nascimbeni, who will also monitor the researchers' progress;
- c) is required to issue periodical activity reports as established in the contract. The activity reports will be subject to approval by the project supervisor. Approval failing, duly justified by the supervisor, will give INAF – OA Padova the right to terminate the contract;
- d) is required to send a written note in case of withdrawal, with at least 30 days notice, otherwise INAF - OA Padova will be entitled to retain or request the reimbursement of the salary amount corresponding to the notice time-span she/he has failed to send;
- e) at the end of the fellowship, is required to send to the Director of the Observatory a report summarising the activities carried out during the fellowship. The report must be signed by the supervisor.

The holder of the fellowship who fails in carrying out her/his regular research activity, without producing justified reasons or lacks repeatedly to fulfill requirements or, according to the evaluation of the scientist in charge, eventually shows evident lack of skills at the planned research activities, will incur in the termination of the contract.

Temporary suspensions of the research fellowship are due in case of obligatory maternity leave or in case of illness lasting longer than one month or to any other serious reason. The reasons for suspending the research fellowship must be proved and certified, and promptly sent to the Director of INAF- OA Padova.

Art. 13 - Advertisement

The present call will also be published, according with art. 8 of INAF rules and regulations on “Assegni di Ricerca”, on the following web sites: <http://www.inaf.it> and <http://www.oapadova.inaf.it>, on the web pages of the Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR) and of European Union, according to the lines guides defined by MIUR.

Art. 14 – Applicable regulation

INAF-OA Padova shall abide by provisions in force promoting equal opportunities for women and men, non-discrimination and respect of privacy in processing personal data.

In case of mismatch between Italian and English version, is authentic and legal the Italian version.

For what not explicitly mentioned in this announcement, INAF-OA Padova shall act in compliance with the regulations in force concerning Italian public selection procedures, when applicable by analogy.

Art. 12 – Responsible Administrative Employee

The Responsible Person for this Job announcement processing is Dr. Andrea Busato, of INAF- OA Padova.

Padova, 2022, February 28th

Il Direttore
(Dott. Roberto Ragazzoni)

APPLICATION FORM

Al Direttore dell'INAF-Osservatorio Astronomico di Padova
 Vicolo dell'Osservatorio, 5
 35122 Padova

I, THE UNDERSIGNED,

(Forename(s))..... (Surname)
 Place of birth (Town/State/Country)
 Date of birth (dd/mm/yy)
 Nationality
 Gender
 Permanent residence address (number/street/town/postal code/Country):

 Email address:

agree to the processing of my personal data, in accordance with Italian Leg. Decree n. 196/2003, for the purposes of the present selection procedure.

Having read the Call for applications **Determina n. 167/2022** for the appointment of one research fellowship entitled: “Analisi di spettri ottici ad alta risoluzione per lo studio di atmosfere esoplanetarie nell'ambito del progetto HOT-ATMOS / *Analysis of high-resolution optical spectra to investigate exoplanetary atmospheres within the HOT-ATMOS project*”.

REQUEST

to apply for the above mentioned position, and to this end, aware that false declarations are punishable by law under art. 76 of Italian Presidential Decree n. 445/2000 and that this Administration will carry out random checks on the accuracy of the declarations made by candidates,

DECLARE

under my own responsibility,

- ☐ that I hold the following (fill one of the two choices)
- Research Doctorate (PhD),
 awarded by
 on date Title of thesis
;
 - Or alternatively
 - Degree,
 which would formally entitle for the admission to a doctorate, awarded by
 on date Title of thesis
 together with at least three years of documented experience in research activities on topics related to the ones of relevance for the present fellowship;
 - ☐ that I hold the following educational qualifications.....

 awarded by.....
 Date.....;
 - ☐ that I am aware of the restrictions described in the Call for applications for this research fellowship;
 - ☐ that I have a professional level of knowledge of English language;
 - ☐ that I have held the following research fellowships at the following Research Institutions:
 (please, in both cases indicate the exact date of beginning and expiration)

| Since -----To | Institution | Duration |
|---------------|-------------|----------|
| | | |
| | | |
| | | |
| | | |

- ☐ that I wish to receive any communication relating to the selection at the following address and that I will give due notice of any change of address:

Address (number/street/city/postal code/Country):

.....

Email address:

.....

List of the documents attached to this form:

1. "Curriculum vitae" **signed and dated** providing evidence of possession of the skills required to carry out the research and including a list, if applicable of grants and fellowships hold in the past;
2. list of publications;
3. further qualifications, working tasks, research activities at public and private institutions and publications;
4. Statement of research interests and plans
5. Annex 2 **signed and dated** by the applicant;
6. copy of a valid identity document (ID card for EU-citizens or passport for non-EU citizens);

Date

Signature

.....

.....

CURRICULUM VITAE

I, THE UNDERSIGNED,

aware that false declarations are punishable by law under Article 76 of Presidential Decree no. 445 of 28th December 2000 and that this Administration will carry out random checks on the accuracy of the declarations made by candidates

DECLARE UNDER MY OWN RESPONSIBILITY

and in accordance with Articles 46-47 of Presidential Decree no. 445 of 28th December 2000 ("SELF-EXECUTED CERTIFICATE AND SELF-EXECUTED AFFIDAVIT")

THAT THE CONTENT OF THE ATTACHED "CURRICULUM VITAE" REPORTS TRUE
STATEMENTS AND FACTS

The Undersigned declares his/her consensus for his/her personal data to be treated respecting the Italian Law "Decreto Legislativo" n. 196/2003 and subsequent modifications and integrations, exclusively to fulfill the procedures necessary for the Call, for which this statement is made.

Date

Signature

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